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Assessment of Maintenance Management Culture of Tertiary Institutions in Nigeria

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Abstract
Buildings are critical factors in achieving desirable outcomes for tertiary institutions. Any inadequacy in building facilities represents a loss in value of the institution, its users and stakeholders. Hence, institution buildings require maintenance in order to create a conducive environment that supports and stimulates learning, teaching, innovation and research as there seems to be a strong correlation between learning and the environment in which knowledge is imparted. In this research, maintenance management structure of tertiary institutions was assessed and the usual maintenance procedures as well as means of funding maintenance activities in the institutions were examined and evaluated. Data used for this research work were collected using structured questionnaires and interview which were administered to workers of the various departments in charge of maintenance work. Data received were analyzed using simple statistical tools such as mean item score, percentage and frequency. The research shows that institutions have a structure in place to carryout maintenance work but do not have a formal organogram showing the hierarchy flow of authority and that maintenance department is characterized by inexperienced staff. It also revealed that maintenance works are properly funded but characterized by frequent occurrences like underestimating and cost overrun. The research recommends that the institution should have a formal organogram to show the distribution of power and to carry out proper training of maintenance staff especially the quantity surveyors in preparing maintenance budgets.
Keywords: Tertiary Institutions, Maintenance, Maintenance Department, Maintenance Practice, Nigeria.

1. Introduction

Researches in the past have affirmed a strong correlation between the performance of educational buildings and quality of education. This is so as buildings are critical factors in achieving desirable outcomes for tertiary institutions. University buildings require maintenance in order to create a conducive environment that supports and stimulates learning, teaching, innovation, and research, (Lateef *et al.,* 2010). However, the government seems to be interested in setting up new buildings while leaving the old buildings to rot and decay (Adeni, 2012). Orebanwo (1999) stipulated that quality and aesthetics of buildings and infrastructures that exists in an institution of learning especially federal universities will reflect her image in terms of aesthetics, modern technology in display with regards to architectural excellence in the use of space, services and other amenities. The appearance of this buildings and infrastructure speaks aloud of the institution as a citadel of learning. Consequently, it is of significant importance that these institutions evolve a high level of maintenance culture to keep this infrastructure in a state that it performs its function efficiently and effectively as well as retain its aesthetics.

In Nigeria, according to Adenuga and Iyagba (2005), public buildings are in very poor and deplorable conditions of structural and decorative disrepairs. In spite of millions of Naira spent to erect all these buildings, they are left, as soon as commissioned to face premature but steady and rapid deterioration, decay and dilapidation (Adenuga, 2012). According to Oladapo (2005) cited in Adenuga (2012), Buildings are required to provide a conducive and safe environment for various human activities. This, essentially, is the question of function. The extent to which the buildings provide the required environment for the required activity is measure of the functionality of the building. Buildings once constructed are expected to provide this major function of sheltering for a number of years. It is highly desirable to produce buildings that are maintenance free for the expected life span, however, this is very difficult to achieve owing to the rate at which buildings deteriorate overtime because of its initial design, construction techniques, the environmental conditions and the use or intensity of use of the building.

Building maintenance refers to a way to preserve the economic value of building. BS3811 (1984) defines maintenance as "the construction of all technical and associated administrative actions intended to retain an item in or restore it to a state in which it can perform its required function". Oladimeji (1996) seen in Odediran (2012) further described maintenance as the combination of every actions carried out to retain an item in or restore it to an acceptable condition. Onwuka (1989) also cited in Odediran (2012) describes maintenance management as planning and control of construction resources to ensure necessary repairs and renewal are carried out with maximum efficiency and economy. It is evident that gross neglect of maintenance coupled with other factors such as structural failure which may be due to poor construction, poor design, poor materials, hostile elements, movement, settlement, shrinkage, act of God, failure of component pats including joints and

connections has led to the state of structures of most federal universities today.

Kolawole (2002) as cited in Odediran (2012), opined that maintenance culture requires correct diagnosis of defects, current remedial measures, sound technical knowledge of material usage, management resources as well as formulation and implementation of integrated plan and policies to sustain utility. Maintenance management culture should be imbibed in organisations. Building maintenance should be carried out to correct defects or prevent and avert such defects in order to minimise cost that would have been incurred should such defects occur. Sodiki (2002), believes the maintenance of a building should begin as soon as a builder leaves the site. The ability to maintain a building should be considered at the design stage. At this stage materials to be used in the structure should be considered with respect to ease of maintenance, repair and replacement. This great responsibility is placed on the building maintenance and works department of these universities. It requires good maintenance style, leadership, efficient work planning, and material management for effective planning, execution, controlling and management of available resources to achieve. This therefore necessitate the need to examine maintenance management culture of tertiary institutions.

2. Literature Review

2.1 Nature of Maintenance

It is highly desirable but hardly feasibly to produce maintenance free buildings. Much work can however be done at the design stage to reduce the amount of subsequent maintenance work that will be done during the operation and maintenance life of a building (Faremi and Adenuga, 2012). BS 3811 (1984) defines maintenance as work undertaken in order to keep or restore every facility of the building i.e. every part of a site, building and contents to an acceptable standard. There are two process envisaged: "keeping" i.e. work carried out in the anticipation of failure and "restoring" i.e. work carried out in anticipation of failure.

BS 3811 (1993) sees maintenance as the combination of all technical and administrative functions, intended to retain an item in, or restore it to a state in which it can perform its required function. It includes routine, preventive, predictive, emergency and corrective maintenance employed in putting the building back to a state in which they will continue to perform their intended function as originally conceived. Maintenance is a way of preserving the economic value of a building. It is a routine repair of a building needed to maintain utility, structural soundness and value of the building. "Sick buildings" are buildings that are not being maintained. Seeley (1987) believes that the nature of maintenance comprises three separate components that inform the tasks involved in maintaining and these are servicing, rectification, and replacement. Renovations which are works done to restore a structure, service an equipment by a major overhaul to the original design and specification are acknowledged as part of maintenance.

2.2 Forms of Maintenance

1. Servicing

Servicing as a form of building maintenance according to the author is essentially a clearing operation undertaken at regular intervals of varying frequency and is sometimes termed day-to-day maintenance. Daily sweeping of floors, monthly washing and cleaning of windows and regular painting for decoration and protection every four years are some examples of servicing. However, as more equipment that is sophisticated is introduced so more complicated service schedules become necessary. Servicing becomes necessary because of constant use of facilities, and the effect of the weather and atmospheric conditions on the components of the building (Cobbinah, 2010). Odediran *et al.,* (2012) found out that a large percentage of building occupants carry out "servicing" form of maintenance daily, weekly, monthly, quarterly, and yearly. Albeit, most do this without knowing they are carrying out maintenance. However, it is uncertain of a similar experience in Universities since University buildings Users have a peculiar case quite different from residential building occupants.

2. Rectification

Cobbinah (2010) submitted that Rrctification work usually occurs fairly early in the life of a building; but it can also occur sometime within the life span of the building. It arises from shortcoming in design, inherent fault in or unsuitability of component, damage of goods in transit or installation and incorrect assembly. Rectification represents a fruitful point at which to reduce the costs of maintenance, because it is available. All that is necessary at any rate in theory is to ensure that components and materials are suitable for their purpose and are correctly installed. Rectification work could be reduced by the development and use of performance specifications and codes of installation (Lee, 1987). Rectification is the response to inherent defects in design, construction or installation stages of the building process, to this effect Seeley (1987) says "one third of the maintenance cost of building can be saved if proper care has been taken at design and construction stage". To avert this therefore the various building professionals must be alert and design buildings devoid of faults and specify materials that are appropriate and readily available to avoid or ensure ease of maintenance at post occupational stage (Che-Ani *et al*., 2009). This will provides an opportunity to "trade off" current capital expenditure against future maintenance costs.

3. Replacement

Replacements occur at all costs in buildings. It is inevitable because service conditions cause materials to decay at different rates. Much replacement work stems not so much from physical breakdown of the materials or element as from deterioration of the appearance (Seeley, 1987). This is because the extent of exposure of materials to the vagaries of the weather varies, and the weather in specific locations also varies whilst the capacity of elements of buildings in withstanding changes and different intensities of the weather vary. This therefore becomes necessary as a result of material decay due to these differential rates of weather conditions. Physical breakdown of materials or elements as well as deterioration appearance may necessitate replacements. However, this brings the problem of distinguishing between maintenance and improvement, which has not been resolved satisfactorily by many definitions. It is however, generally conceded that maintenance should include reasonable elements of improvement, for example, the replacement of worn out component with up-to-date version. Where the intention of work done is to increase efficiency in the use of the building by adding facilities, which were not previous present, the work should be classify as improvement. However, it is logical therefore to extend the meaning of maintenance to cover some localized improvement (Lee, 1987). Maintenance can also embrace renovations, which consist of work done to restore a structure, service and equipment by a major overhaul to the original design and specification, or to improve on the original design. This may include limited additions and extensions to the original building.

4. Renovations

It consists of work done to restore a structure, service and equipment by a major overhaul to the original design and specification, or to improve on the original design. Some common maintenance work includes: Repainting of building components such as doors, walls, and ceilings, Repairs of leaving roofs, Repairs of damaged or spoilt electrical and mechanical components (Cobbinah, 2010). This seem to be the major maintenance form of maintenance engaged in, in the construction industry today. Olanrewaju (2010) further affirmed that renovations reduce maintenance cost while Lateef *et al.,* (2010) asserted that renovation works in universities are mainly carried out by major contractors.

5. Conversion

Conversion simply refers to converting or changing the use of a building from one form to another. For example converting a residential building to a church, or converting a lecture theatre to an office complex (Cobbinah, 2010). Seeley (1987) stated that prior to conversion the building must be thoroughly examined to determine its stability.

6. Extension

These forms of maintenance arise as a result of sudden/Necessary development. For example a lecture theatre can be extended as a result of growth in population. It involves addition of parts to make housing wider or larger in response to what is required of it (Cobbinah, 2010).

7. Alteration

It simply refers to adjustment of initial design of a building to upgrade the building to a particular standard or aesthetics. These usually arise as a result of increase in taste of the occupant or tenant. And also factors such as environmental factor, geographical location of building among other reasons. This can be found mainly in first generation Universities as they try to modify ancient architecture to modern standard a typical example is changing of Louvre windows to casement windows (Cobbinah, 2010). Lateef *et al.* (2010) found out that alteration works in universities are carried out mostly by small contractors.

2.3 Organization of Maintenance Department

Lee (1987) stipulated that it is rare that one has the opportunity to plan the structure of an organization "*de novo*" usually the maintenance manager takes over an existing which has evolved to its present form over a number of years. The most appropriate organizational structure is that which is the best suited to meet the particular needs of the organization. The maintenance department in an organization is managed by a maintenance manager who manages and supervises the operation of other executives managing the various subdivisions comprising professionals like Electrical, Mechanical, Building and Civil etc. The maintenance manager is responsible for the planning and control of maintenance operations. In a small firm, the functions may be undertaken by a member of staff in addition to his other duties, while in a larger firm there would be a separate group of people solely responsible for maintenance.

The organization of a maintenance department may vary in its organization. In certain cases they may exist unknowingly as it exist in various residences as seen in Odediran *et al.* (2012), in other cases they may exist informally, and formally in large private sectors like banks as shown in Faremi and Adenuga (2012) and also in public sectors like that of public hospital shown in Adenuga (2012) where they exist formally as maintenance department, works department, and physical planning unit as the case may be.

Ikpo (2006) asserted that the organizational structure found in most maintenance organization is pyramidal in nature showing a deep structure. Hence, the author claimed a director or manager, depending on the

nomenclature heads the top management echelon directly responsible to him are the heads of various sections of the organization traditionally split to civil/building, mechanical, and electrical departments. Large organisations according to the author have estimating, architectural and planning as well as the administrative departmental heads. The middle cadre the author said is mainly composed of technologist that directly supervise all activities undertaken they are mainly charged with the prime duty of enforcing the decision from the upper level. The lower echelon represents the tradesmen that stay on the job such tradesmen include masons, bricklayers, painters, glaziers and casual staff or full time labourers.

The maintenance department among other things performs several functions. Lee (1987) opined that maintenance department carries out a wide range of function ranging from advisory function, organizational function, control function, and miscellaneous function. This functions according to the author involves liaison with the users and occupants as well as management (advisory), administrative and supervisory of workers and contractors (organizational), regulating quality, cost, time and materials (control function). Maintenance department also categorize maintenance work according to the nature of work; civil, mechanical/electrical, landscaping e.t.c and according to their magnitude, severity and magnitude. (Lateef *et al*, 2010).

Ikpo (2006) observed that large organisations carryout functions like designing (architectural), estimating and costing, planning as well as administrative function. The major function of the maintenance department can therefore be said to be geared towards proper decision making for proper planning, design and implementation of maintenance operation. More so, preparation of tender document and contractor selection is carried out by respective executive officers of the various units that make up the maintenance department. (Lateef *et al,* 2010).

3. Research Methodology

This study employed survey design and data collection method was through the use of questionnaires and observation of construction professionals working in maintenance department of selected tertiary institutions. The selected tertiary institutions comprises of 3 universities and 5 polytechnics located in Ondo State, Nigeria. The population for the study is a total of 75 professionals working in the various maintenance related departments in the identified tertiary institutions. Since this number is manageable census sampling was carried out with a total of 75 questionnaires administered. 38 questionnaires were retrieved representing about 51% of the total population which is considered sufficient for the study based on the assertion of Moser and Kalton (1999) that the result of a survey could be considered as biased and little significant if the return rate was lower than 20-30%. Data gathered were analyzed using simple statistical tools such as mean item score, percentage and frequency.

4. Findings and Discussions

4.1 Respondents' Information

Result of the demographic information of respondents beginning with the scope covered by this study and the number of responses received from institutions which includes: Federal University of Technology Akure (FUTA), Federal college of Agriculture (FECA), Adeyemi college of Education Ondo (ACE), Adekule Ajasin University, Akungba-Akoko (AAUA), Ondo State University of Technology, Okitipupa (OSUSTECH), Rufus Giwa Polytechnic Owo (RUGIPOL), Achievers University Owo (AUO), and Elizade University Ilara-mokin (EUI). The profession of respondents revealed that each of the various professions identified were represented with the Structural Engineers and Civil Engineers having the highest frequency of 12 and 11 respectively and followed by the Builders with a frequency of 5 and Quantity surveyors with 4. The Architects, Town planners and Project Manager have a frequency of 2 each. The diverse professions represented gives room for different opinions from different perspectives thus enriching this research work. The academic qualification as depicted by this table shows that majority of the respondents are PGD holders followed by M.Tech/M.Sc. holders while only one respondent is an OND holder. Also a larger portion of the respondents (55.3%) have above 10 years working experience in maintenance work. This high level of experience would place them in good position to respond to the various research questions.

4.2 Maintenance Management Structure of Tertiary Institutions

The structure of the maintenance department of institutions base on the result indicates that in all institutions assessed, there is a department saddled with the responsibility of maintaining its infrastructure. This department vary in names such as; Works Department, Maintenance Department, and Physical Planning Department. In some cases they are even combined as in Maintenance and works Department, Physical Planning Works and services as the case may be. However, their collective roles are similar and it includes; physical development in the institution, site inspection, facility survey, user satisfaction survey, general maintenance and repairs alongside their individual roles depending on their various professions.

The professional composition shows that the tertiary institutions in Ondo state have an average of four

(4) professionals with about 47% having below 10years experience in maintenance related works and a little above half (53%) having above 10years experience in maintenance related works. This indicate that there is an average experience level in the years of experience of maintenance officers in these tertiary institutions. However, it is important to note that most institutions are grossly understaffed and some of these institutions are privately owned and established not too long ago, hence getting staffs with long years of experience in such institutions might be unrealistic.

4.3 Procedures for Carrying Out Maintenance Works in Tertiary Institutions

Findings shows that all users are permitted to make official complaint directly to the maintenance department as stated by 94.7% of the respondents while 5.3% stated that that users are not permitted to make official complaint directly to the maintenance department. Also 92.1% of respondents stated that complaints are submitted in written format only and 7.9% stated that it is submitted orally and then transcribed by the warden or officer that receives such complaint. Respondents' opinion as to whether building survey is carried out indicates that 68.4% affirmed that building and facility survey is carried out, and 31.6% stated otherwise. The result as to categorizing maintenance work indicates that 68.4% categorize maintenance work, while 31.6% do not. Also the method mostly employed in maintenance work execution according to respondents (63%) is the combination of contracting and direct labour. About twenty nine (29%) agreed to the use of direct labour only and 8% agreeing to the use of contracting method only.

Factors that influence choice of method of work execution as shown in Table 2 reveals that nature of work, quality, cost, and size are the major factors influencing contracting method selection while cost, quality, nature of work and time the major factor influencing direct labour method. However, in both contracting and direct labour methods all the factor rank reasonably above an average of 2.5 indicating that these factors are duly considered in decision as to type of work execution method to be used.

Table 2: Factors influencing choice of Maintenance work execution

	Contracting method		**Direct Labour Method**	
	Mean	Rank	Mean	Rank
Nature	4.62	1	4.22	3
Quality	4.50	2	4.24	1
Cost	4.44	3	4.24	1
Size	4.32	4	4.00	5
Time	4.18	5	4.05	4
Personnel	3.74	6	3.84	7
Risk	3.62	7	3.97	6
Space	3.21	8	3.24	8
Location	2.74	9	2.95	9

Table 3 shows the forms of maintenance which is frequently done in tertiary institutions. Interestingly, servicing, rectification, replacement ranked tertiary than renovation, while conversion, extension and alteration ranked low. However, all the forms of maintenance ranked above average except alteration. This suggests that alteration is the least used form of maintenance. Also Table 3 shows the methods of selecting contractors for maintenance work in tertiary institutions with negotiated tendering being the most common method used above selective tendering which is also used surprisingly more than open tendering which is least used method. Open tendering method ranks below average indicating it is least likely method used in contractor selection. Selective tendering ranked a little above average while negotiated tendering method ranked highest as the most used contractor selection method.

Table 3: Forms of Maintenance

Forms	Mean	Rank
Servicing	4.00	1
Rectification	3.45	2
Replacement	3.35	3
Renovation	3.24	4
Conversion	2.73	5
Extension	2.66	6
Alteration	2.34	7
Methods of execution of maintenance works		
Maintenance works are advertised publicly and contractors selected by open tendering.	2.21	3
Tenders are received and contractors are selected from a shortlist of registered contractors with the university.	2.81	2
Maintenance works are contracted by negotiation with nominated contractor	3.21	1

4.4 Maintenance Funding in Tertiary Institutions

Attitude of management of tertiary institution to funding maintenance work is good (ranging from excellent to good) according to 68.4% of the respondents while 21.1.5% and 10.5% believe it is fair and poor respectively. 67.6% of the respondents stated that maintenance works are carried out base on annual budget while 32.4% stated otherwise. This annual budget are based on annual allocation as indicated by 52.4% of the respondents while 48.6% stated that the budget for maintenance work within their institutions is not based on annual allocation only.

Respondents opinion on the frequency of occurrence of cases associated with budgeting and execution of works as shown in Table 4 indicates that cost overrun and underestimating both stands a chance of sometimes occurring with both scoring above average. Also, inadequate funding is the highest occurring case associated with assessing the funds for maintenance work in tertiary institutions, followed by delays in approval and corruption in management.

Table 4: Frequent Occurrence associated with maintenance with Budgeting

Occurrence	Mean	Rank
Frequency of occurrence in budgeting		
Cost Overrun	3.11	1
Underestimating	3.08	2
Occurrences associated with assessing funds		
Inadequate Funding	3.00	1
Delays in approval	2.69	2
Corruption in management	2.08	3

4.5 Discussion of Findings

4.5.1 Structures of Maintenance Department

Lee (1987) structure of an organization is usually represented by a chart showing the allocation of formal responsibilities and the linking mechanism between the roles that is the typical line and staff chart. This is usually backed up with a corporate plan, setting out the general obligations and policies of the organization and job specification which outline the duties of the various members of staff and indicates to whom they are responsible and the limits of their authority. The analysis carried out is in disagreement with this since most of the institutions 87.5% have no formal organizational chart showing the hierarchy and roles the organizational chart is abstract and mainly based on either years of employment, osr academic qualification.

In confirmation of Ikpo (2006) assertion that the organizational structure found in most maintenance organization is pyramidal in nature showing a deep structure. Hence, the author claimed a director or manager, depending on the nomenclature heads the top management echelon directly responsible to him are the heads of various sections of the organization traditionally spited to civil/building, mechanical, and electrical departments. Large organisations according to the author have estimating, architectural and planning as well as the administrative departmental heads. The middle cadre the author said is mainly composed of technologist that directly supervise all activities undertaken they are mainly charged with the prime duty of enforcing the decision from the upper level. The lower echelon represents the tradesmen that stay on the job such tradesmen include masons, bricklayers, painters, glaziers and casual staff or full time labourers. This research work agrees with the sectionalisation as it was found out in many institutions the various professions e.g. Architects, Builders, Civil Engineers and Quantity Surveyors as well as other professions each had their sectional head that are responsible to the Director of maintenance. However, in divulgence from this assertion the pyramidal structure despite existing is informal in nature.

Lee (1987) stated that it is rare that one has the opportunity to plan the structure of an organisation "*de novo*" usually the maintenance manager takes over an existing which has evolved to its present form over a number of years. This research affirms this statement since it was noticed that most of the structures in place where inherited and passed on and continued metamorphosing to its present state. It is therefore necessary for a maintenance manager to take upon himself the responsibility of establishing a properly structured maintenance department.

4.5.2 Procedures for Carrying Out Maintenance

Odediran (2012) stated that a large percentage of building occupants carry out "servicing" daily maintenance in form of daily, weekly, monthly, quarterly, and yearly. Albeit most do this without knowing they are carrying out maintenance they do this in form of cleaning, washing of windows, regular painting and decoration. This research totally agrees with this assertion with servicing ranking high along with rectification, replacement and renovation. Conversion and Extension ranks above average while Alteration ranks low.

The Chartered Institute of Building (1975) as cited in Adenuga (2012) reiterates that the sizes, types and number of buildings to be maintained will invariably determine the source of manpower either in service or outsourcing. Lee (1987) also contends that the choice to be made should be according to which offers greater

advantage in terms of cost, quality and convenience. It is therefore reasonable that both methods be considered with the factors enumerated in other to choose the option that offers more advantage. Confirming the opinion of Lateef *et al.* (2010) who discovered that understaffing and inexperience are the major causes of Outsourcing apart from the disadvantages of direct labour. This research work asserts this with personnel ranking low among the factors that influence the choice of direct labour method.

Adebayo (1991) as cited in Adenuga (2010) maintenance works are complex in nature and therefore are carried out by directly employed labour while some are carried out by contractors. According to the author, the mode of execution of maintenance works is a matter of policy. It is the maintenance policy of the establishment that dictates whether directly employed labour, or contractors, or both will be most advantageous. This research work sustains this assertion with nature ranking highest among factors influencing choice of contracting method. To further affirm this assertion the choice of method to employ is a matter of policy as seen in most institutions without a single technician or craftsman in some cases the maintenance department has just one or two staffs aside the maintenance officer this is mainly the practice in private institution. In such institutions the policy is mainly contracting rather than direct labour.

4.5.3 Funding of Maintenance Work

Kunya and Achuenu (2005) assert that maintenance works in Universities are poorly funded. This research work totally contradicts his assertion due to the high level of satisfaction from Users and maintenance officers. The reason for this is explained by the maintenance department as being an alternative source of funding mainly by internally generated revenue (IGR). The management of institutions also show good attitude towards funding of maintenance activities as shown in this research. In accordance with Lateef et al (2010) who stated that maintenance works in universities are budget driven rather need driven. This statement has been proven to be true by this research since most institution base their maintenance work on the budget received rather than the need as a result the works are classified so as to meet tertiary priorities and emergencies.

Sustaining the works of Seeley (1987) who stated that there is often a technical difficulty in assessing the quantity, problems in execution and costs of building maintenance work, but overruns and underestimates frequently result in failure of management to recognise the value and need for realistic budget. This research work agrees with this statement with cost overrun and underestimating among the frequent occurrence in budgeting. This can be as a result of inadequate knowledge of proper budgeting and inability to properly assess the extent of work required during building survey. Abigo *et al* (2012) opined that lack of funding is not the problem of maintenance work in Nigeria but corruption is. This research agrees partly with the author by sustaining that lack of funds is not the problem of maintenance work. However, it disagrees with corruption being an occurrence.

5. Conclusion and Recommendation

The result of this study indicate that management of tertiary institutions have a good attitude towards maintenance, and that users as well as maintenance staff are satisfied with the level of maintenance work carried by the maintenance department. The study employs different methodologies in determining the prominent procedure for carrying out maintenance works, the structure of the maintenance department as well as funding of maintenance activities in tertiary institutions which has sustained the institution facilities to date.

This study reveals that there is no formal organisational chart showing the distribution of power and responsibility in most institution. There is therefore need to construct a proper organisational chart showing the distribution of power and responsibility for proper functioning of the organisation and personnel. More so, maintenance work should be categorised according to their order of importance or severity as such maintenance work should be based on need “need driven” and not based on budget “budget driven” as opined by respondents. User satisfaction survey should also be carried out regularly and maintenance work should be carried out in line with users’ requirement

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